

REMARKS

Request for Reconsideration

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the position that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the above amendments to the Specification and the following remarks.

Claim Status

Claims 1-21 are presented for prosecution. No amendments have been made at this time.

Invention

The present Invention is directed to a process wherein the toner is formed by coagulating a crystalline ester compound of formula 1 and a resin particle in an aqueous medium in the presence of an aluminum compound. The crystalline ester acts as a mold-releasing agent and the aluminum compound acts as a coagulation agent which is subsequently removed by washing with water.

Applicants discovered that the specific combination of aluminum coagulation agent in combination with a crystalline ester represented by formula 1 produces superior results compared to either a conventional mold-releasing agent, such as, carnauba wax, used with an aluminum coagulation agent or a crystalline ester used with a conventional coagulation agent, such as, magnesium sulfate. This unique combination is highlighted by the examples. The Examiner's attention is directed to Table 1 on page 49 where it can be seen that Examples 5 and 6 use a conventional mold-releasing agent, such as carnauba wax, with an aluminum coagulation agent or a crystalline ester represented by formula 1 and a conventional coagulation agent, such as, magnesium sulfate. From Table 2 on page 54, it can be seen that toners of Examples 5 and 6 are inferior in fixing ability on thick paper, fixing ability on offset printing paper, toner blister and contamination of interior machine compared to Toners 1 through 4 which are made using the specific combination of crystalline ester compound represented by formula 1 and the aluminum coagulation agent.

It is respectfully submitted that the cited references do not direct one of skill in the art to this unique combination.

Rejection

Claims 1-21 have been rejected as being unpatentable over a combination of Tan, Hagi and Matsushima.

Tan has been cited to teach a process for making a toner wherein a resin is made, an offset preventing agent can be added at different times and a coagulation agent is used to coagulate the toner resin. The coagulation agents taught in Tan include aluminum compounds, e.g. aluminum sulfate. The offset preventing agents used in Tan are not the same as the crystalline ester of the present Invention, thus, the Examiner has turned to Matsushima. Matsushima teaches the crystalline ester of this Invention and has been cited to teach that it is known that the offset preventing agent of Tan is equivalent to the crystalline ester of the present Invention. Thus, it is the Examiner's position that it would have been obvious for one of skill in the art to replace the offset preventing agents of Tan with the crystalline ester of Matsushima to arrive at the present Invention. Applicants refute this rejection on a number of grounds.

First, the test results presented in the Application demonstrate the non-obviousness of the Invention. As shown in Table 2 on page 54, a mold-releasing agent, such as the type taught in Tan when used in conjunction with an aluminum coagulation agent, produce a toner no better than a toner made with the crystalline ester of formula 1 and a non-aluminum coagulation agent, see Toners 5 and 6. These results can be compared to Toners 1-4 which show surprising and unexpected results which are far superior to Toners 5 and 6. The dramatic difference between the Toner of the present Invention and Toners 5 and 6 demonstrate the non-obviousness of the claimed combination of the aluminum coagulant and the crystalline ester of formula 1.

Furthermore, the references themselves do not suggest the specific combination of the present Invention.

Tan teaches adding the offset preventing agent at three distinct different times. These three distinct different times include (a) during polymerization of the resin used to form the toner; (b) after polymerization but before coagulation; or (c) after coagulation, see Column 3, lines 46-51 and Column 11, lines 8-18. Thus, Tan is broadly teaching that the offset

preventing agent can be added after coagulation as well as before coagulation, and Tan's examples show that there is no difference in the point of addition of the offset preventing agent.

The Examiner's attention is directed to Table 10 at Column 28 and Table 11 at Column 29 of Tan. Focusing on Examples 27, 28, 32 and 33, each of these Examples uses the same offset preventing agent, Viscole 660P. Examples 27 and 32 add the offset preventing agent before coagulation. In contrast, Examples 28 and 33 add the offset preventing agent after coagulation. As can be seen by the test results, there is essentially no difference between Examples 27 and 28 and Examples 32 and 33. Thus, it is respectfully submitted that Tan does not direct one of skill in the art to specifically add the offset preventing agent before, as opposed to after, coagulation, since both are taught as being equivalent.

Furthermore, it will be noted that Tan teaches a wide variety of coagulation agents at Column 10, lines 50-59. In view of Tan's broad teachings, it is respectfully submitted that one of skill in the art, upon reading Tan, is not specifically directed to add the offset agent before coagulation and is not

specifically taught to use an aluminum compound as a coagulation agent.

Turning to the secondary reference of Matsushima, it is noted that the release-agent of Matsushima, meets the definition of a crystalline ester compound represented by formula 1 in the claims, however, Matsushima fails to teach the use of an aluminum compound as a coagulation agent. Therefore, even if Tan and Matsushima were combined, one of skill in the art would not automatically be directed to coagulating the crystalline compound of formula 1 of the present Invention with a resin using an aluminum compound coagulating agent. Both Matsushima and Tan teach using various coagulation agents, see Column 10, lines 50-59 of Tan and Column 26, lines 28-30 of Matsushima.

Furthermore, it is submitted that one of skill in the art is directed away from combining the teachings of Matsushima and Tan for the coagulation step because they teach the coagulation step at different temperatures. Tan teaches coagulating at a temperature of not less than the glass transition point of the primary resin, see Column 3, lines 41-43. In other words, Tan is teaching that the coagulation step is conducted at temperatures above the glass transition temperature. In

contrast, Matsushima is teaching that the coagulation step is conducted at a temperature not greater than the glass transition point of the resin, see Column 26, lines 45 and 54 of Matsushima. In other words, Matsushima is teaching that the coagulation step is conducted at a temperature below the glass transition temperature of the resin. Since Tan and Matsushima are teaching coagulating at diametrically opposed temperatures, it is submitted that one of skill in the art would not combine the teachings of Matsushima and Tan because of the differences in the temperature at which the coagulation step is conducted.

Thus, it is respectfully submitted that, based on the different teachings in Matsushima and Tan, one would not arrive at the present Invention. First, one of skill in the art would have to select adding the offset preventing agent before coagulation rather than after coagulation even though Tan teaches that the two are equivalent. Second, one would have to select the aluminum coagulation agent over any other coagulation even though Tan and Matsushima teach that any coagulation agent can be employed. Third, one would have to ignore the contrary teachings of Matsushima and Tan, the contrary teachings being the different temperature at which coagulation is conducted, to then select the specific offset preventing agent in Matsushima

and replace it for the offset agent in Tan. Applicants submit that this is too many steps for an obvious combination.

With respect to Hagi, Hagi is not seen as teaching the missing elements from Tan and Matsushima and, thus, does not direct one of skill in the art to the specific addition of the crystalline ester compound represented by formula 1 in combination with the resin and the aluminum coagulation agent in order to coagulate the toner. Respectfully, the claims, as presented herein, are patentable over the cited references taken alone or in combination.

Specification Amendments

In the Office Action, the Examiner requested that the Specification be reviewed for possible minor errors. The Specification has been reviewed and typographical errors have been corrected herein to the Specification. No new matter has been added by way of these amendments.

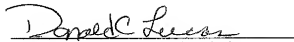
Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested. Should any extensions of time or fees be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit Account # 02-2275.

Respectfully submitted,

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